

ABSTRACT OF DISCLOSURE

An apparatus and method are provided to equalize a histogram using a cumulative distribution function (CDF) of an image. A model parameter estimator estimates parameters from the image using a Gaussian model. An error function storing unit stores error function values based on a Gaussian distribution. A CDF calculator calculates a CDF using one of the error function values from the error function storing unit and the estimated parameters. A histogram equalizer performs histogram equalization using the CDF.